

REMARKS/ARGUMENTS

Claims 1, 3, 5 and 18-22 are active in the case.

The specification on page 34, Table 2 has been amended to recite the length of Wallastonite as 30 μm , correcting an obvious typographical error. Claim 1 has been amended to limit the substrate to copper, the base resin to one selected from the group consisting of an aromatic polyamide and a liquid crystal polyester and the fibrous filler is selected from the group consisting of boric aluminum and potassium titanate with an average fiber diameter of 0.3 to 1.0 μm in an average fiber length of 10 to 30 μm relative to 100 parts by mass of the base resin. This brings the claims in line with the showing in the previously filed Declaration and the Declarations filed with the present amendment. Claim 3 has been amended to recite that the aromatic polyamide is poly(phthalamide). Claim 5 has been amended to place it in more readable form. No new matter has been added into the specification or amended claims.

The rejection of Claims 1-3, 6, 7, 9, 10, 12, 13 and 15-17 under 35 U.S.C. § 103(a) as unpatentable over Watanabe et al. in view of Miyamoto et al. is traversed.

Miyamoto et al. disclose in column 3, line 56 through column 4, line 35 and column 5, line 67 through column 6, line 5 numerous plasmas used in treating organic films to increase adhesivity, including oxygen and argon plasmas. Declarations are filed herewith by the present inventors to demonstrate the superiority of adhesion of copper deposited on particular insulating substrates containing filler in amounts within the range of the present claims and having dimensions within the range of the present claims, when copper is deposited on insulating substrates treated by nitrogen plasma according to the present claims, when compared to copper deposited on the same substrates treated by oxygen plasma or argon plasma, two of the plasmas used in Miyamoto et al. Table 1 of the Declarations Under 35 37 C.F.R. §1.132 shows three different base resins having filler material in different

amounts within the range of the present claims and having dimensions within the range of the present claims treated by nitrogen plasma according to the present invention, oxygen plasma and argon plasma in the case of base resins of poly(phthalamide) and liquid crystal polyester, using the plasma treatment disclosed in Miyamoto et al. In the case of each of the above base resins having filler material within the range of the present claims and having dimensions within the range of the present claims, treatment with nitrogen plasma demonstrated superior results in adhesion between deposited copper and the nitrogen plasma treated surface of the base resin with filler in which the adhesivity for copper to the base resin of the present invention was increased from a range of 6% up to 220%, when compared to the same resins having the same fillers and being treated by oxygen plasma and argon plasma, two plasmas disclosed for use in Miyamoto et al. A third experiment was conducted with a base resin of polyether ether ketone with a filler of boric aluminum having the same dimensions as the boric aluminum used with the base resin of aromatic polyamide but in a different amount. The results on adhesivity demonstrated for copper to the nitrogen plasma treated polyether ether ketone would be expected to show the same differential when oxygen or argon plasmas were used, as with the above two comparative examples.

It is clear from the results of the Declarations that nitrogen plasma treatment of a base resin containing filler material according to the present claims produces superior adhesion between the base resin and deposited copper, when compared to the same base resin with the same filler material treated by oxygen plasma or argon plasma, two of the plasmas disclosed for use in Miyamoto et al. For the above reasons it is submitted that the claims distinguish over the combination of references.

The rejection of Claims 1-3, 5, 6, 8 and 9 under 35 U.S.C. §103(a) as unpatentable over Inoue et al. in view of Miyamoto et al. and Swisher et al. is traversed.

The arguments made above in response to the rejection over Watanabe et al. in view of Miyamoto et al. are equally applicable to the above rejection, because the superior results shown in the Declaration Under 37 C.F.R. §1.132 distinguish the present claims over the combination of references.

The rejection of Claims 4 and 11 under 35 U.S.C. §103(a) as unpatentable over Watanabe et al. in view of Miyamoto et al. and Bersted et al. is traversed.

The arguments made above in the response to the rejection over Watanabe et al. in view of Miyamoto et al. are equally applicable to the above rejection, because the superior results shown in the Declaration Under 37 C.F.R. §1.132 distinguish the claims over the combination of references.

The rejection of Claim 14 under 35 U.S.C. §103(a) as unpatentable over Inoue et al. in view of Miyamoto et al. and Freeman et al. is traversed.

The arguments made above in the response to the rejection over Watanabe et al. in view of Miyamoto et al. are equally applicable to the above rejection, because the superior results shown in the Declaration Under 37 C.F.R. §1.132 distinguish the claims over the combination of references.

The rejection of Claims 1, 18 and 19 under 35 U.S.C. §103(a) as unpatentable over Okada et al. in view of Kobayashi et al. and Miyamoto et al. is traversed.

The arguments made above in the response to the rejection over Watanabe et al. in view of Miyamoto et al. are equally applicable to the above rejection, because the superior results shown in the Declaration Under 37 C.F.R. §1.132 distinguish the claims over the combination of references.

The rejection of Claims 1 and 20-22 under 35 U.S.C. §103(a) as unpatentable over Inoue et al. in view of Kobayashi et al. and JP53-62175 and Miyamoto et al. is traversed.

The arguments made above in the response to the rejection over Watanabe et al in view of Miyamoto et al. are equally applicable to the above rejection, because the superior results shown in the Declaration Under 37 C.F.R. §1.132 distinguish the claims over the combination of references.

Accordingly, for the reasons presented above, it is submitted that Claims 1, 3, 5 and 18-22 are allowable and such action is respectfully requested.

Respectfully submitted,

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